Appendix

Showing Marked-up Version of the Claims

IN THE SPECIFICATION

Page 14, last paragraph:

In a preferred embodiment, the S/D bar units 16 can be adjusted to position the height of the laser beam above the vehicle path surface, such as a roadway, and also to orient the beam to be at least substantially parallel to the surface. To accomplish this, the bar units 16 may be provided with adjustable legs [27]24, 26, 28 that support the bar units 16, 18 as shown in FIGS. 2-6.

Page 15, last paragraph:

By virtue of the releasable pins 42, 46, 48 , each of the legs [27]24, 26 and 28 can be independently height adjusted to effect coarse adjustment. It is also possible in the preferred embodiment to effect a more fine adjustment on each leg [27]24, 26, and 28 by the lower portion of each leg having a threaded foot 50 that can be rotated to raise or lower the foot 50 by fine amounts relative to its respective leg [27]24, 26, and 28. The foot 50 is designated by the reference numeral 50 throughout, because the threaded insertion of the foot into the respective legs [27]24, 26 and 28 is the same for each leg.

Page 16, first complete paragraph:

Referring now particularly to FIG. 6, it will be appreciated that the arrangement of the legs [27]24, 26 and 28 permits the S/D bar 16 including the L-shaped rear portion 38 to be adjusted for use on a flat surface, or on a curbed or uneven surface. For example, in the configuration shown in FIG. 6, the rear leg 27 is in a primarily upward position so that it can rest in the top of a curb, while the front legs 26 and 28 can rest on a pavement surface below the curb. For use on a flat roadway surface, the rear leg 27 could be lowered into a fully lowered state, in which the feet of the legs [27]24, 26 and 28 would be generally in the same horizontal plate, and could rest on a roadway surface. The adjustment of the legs [27]24, 26 and 28, including both fine and coarse adjustments in the preferred embodiment, also permits the S/D bar 16 to be used on a crowned or otherwise inclined road surface, and still permit a generally horizontal beam.

Page 18, second complete paragraph:

The construction described above also permits for ready disassembly of the bars. For example, when not in use, the S/D bar 16 can be separated by pulling out the pins 36 and undoing the screws 40. The legs [27]24, 26 and 28 can also be removed from their respective housings. After this disassembly, the various individual components will now be: the bar portion 30, the bar portion 32, the L-shaped rear portion 38, the connector 34, and the legs [27]24, 26 and 28. These various components can be arranged in a compact fashion for storage and/or transport.

IN THE CLAIMS

Claims 13, 16, 17, 18, 22 and 26 have been amended.

Cancel claims 1 and 19 without prejudice or disclaimer.

2. (Amended) An apparatus according to claim [1] 13, wherein said first radiation source and said first detector are located in a first sender/detector unit, and wherein said second radiation source and said second detector are located in a second sender/detector unit.

3. (Amended) An apparatus according to claim [1] 13, wherein said first reflector and second reflector comprise first and second retro-reflective matrix units, respectively.

12. (Amended) An apparatus according to claim [1] 13, wherein each said radiation source is a laser beam source.

13. (Amended) An apparatus [according to claim 1,] for measuring at least one of a speed and acceleration of a vehicle traveling on a vehicle path, the apparatus comprising:

a first radiation source that emits radiation arranged at a first side of the vehicle path;

a first reflector arranged on a second, opposite side of the vehicle path from said first radiation source that reflects radiation emitted from said first radiation source back towards the first side of the vehicle path;

a first detector arranged at the first side of the vehicle path that receives the reflected radiation from said first reflector and detects a presence and absence of the reflected radiation;

a second radiation source that emits radiation arranged at the first side of the vehicle path;

a second reflector arranged on the second, opposite side of the vehicle path from said second radiation source that reflects radiation emitted from said second radiation source back towards the first side of the vehicle path;

a second detector arranged at the first side of the vehicle path that receives the reflected radiation from said second reflector and detects a presence and absence of the reflected radiation; and

a controller operatively connected to said first and second detectors that calculates at least one of the speed and acceleration of the vehicle in response to said first and second detectors

wherein each said radiation source is a modulated laser beam source.

15. (Twice Amended) An apparatus according to claim [1] 13, further comprising a tilt sensor that measures a tilt of the vehicle path relative to a level path,

wherein said controller determines a Vehicle Specific Power of the vehicle due to calculated acceleration and measured tilt.

16. (Twice Amended) An apparatus for measuring at least one of a speed and acceleration of a vehicle traveling on a vehicle path, the apparatus comprising:

first radiation means for emitting radiation arranged at a first side of the vehicle path;

first reflector means arranged on a second, opposite side of the vehicle path from said first radiation means for reflecting radiation emitted from said first radiation means back towards the first side of the vehicle path;

first detector means arranged at the first side of the vehicle path that receives the reflected radiation from said first reflector means for detecting a presence or absence of the reflected radiation;

second radiation means for emitting radiation arranged at the first side of the vehicle path;

second reflector means arranged on the second, opposite side of the vehicle path from said second radiation means for reflecting radiation emitted from said second radiation means back towards the first side of the vehicle path;

second detector means arranged at the first side of the vehicle path that receives the reflected radiation from said second reflector means for detecting a presence or absence of the reflected radiation; and

calculating means operatively connected to said first and second detectors, for calculating at least one of the speed and acceleration of the vehicle in response to said first and second detectors;

wherein each of said radiation means comprises means for modulating radiation to emit a modulated beam.

17. (Twice Amended) A method according to claim 16, wherein the first and second radiation and detector means are each affixed to a permanent installation on [a first side of the vehicle path]the side of the roadway.

18. (Twice Amended) A method according to claim 16, wherein a first and second reflector means are each affixed to a permanent installation on [a second, opposite]the side of the [vehicle path]roadway.

21. (Amended) A method according to claim [19] 22, wherein the emitting step includes emitting a laser beam.

22. (Amended) A method [according to claim 19,] for measuring at least one of a speed and acceleration of a vehicle traveling on a vehicle path, comprising the steps of:

emitting radiation from a first side of the vehicle path;

reflecting radiation emitted from said radiation emitting step at a second, opposite side of the vehicle path back towards the first side of the vehicle path;

receiving at the first side of the vehicle path the reflected radiation from the reflecting step;

detecting a presence or absence of the reflected radiation; and

calculating at least one of the speed and acceleration of the vehicle in response to the detecting step;

wherein the emitting step comprises the step of modulating radiation to emit a modulated beam.

24. (Amended) A method according to claim [19] 22, wherein the reflecting step includes reflecting using a retro-reflective matrix unit.

25. (Twice Amended) A method according to claim [19] 22, further comprising the steps of:

measuring a tilt of the vehicle path relative to a level path; and

determining a Vehicle Specific Power of the vehicle due to the calculated acceleration based in part on the measured tilt.

26. (Twice Amended) An apparatus for measuring at least one of a speed and acceleration of a vehicle traveling on a vehicle path, comprising:

means for emitting radiation from a first side of the vehicle path;

means for reflecting radiation emitted from said radiation emitting step at a second, opposite side of the vehicle path back towards the first side of the vehicle path;

means for receiving at the first side of the vehicle path the reflected radiation from the reflecting step;

[means for securing said radiation emitting means and securing said reflecting radiation means in substantially the same plane as the vehicle path;]

means for detecting a presence or absence of the reflected radiation; and

means for calculating at least one of the speed and acceleration of the vehicle in response to the detecting step;

wherein each of said emitting means comprises means for modulating radiation to emit a modulated beam.